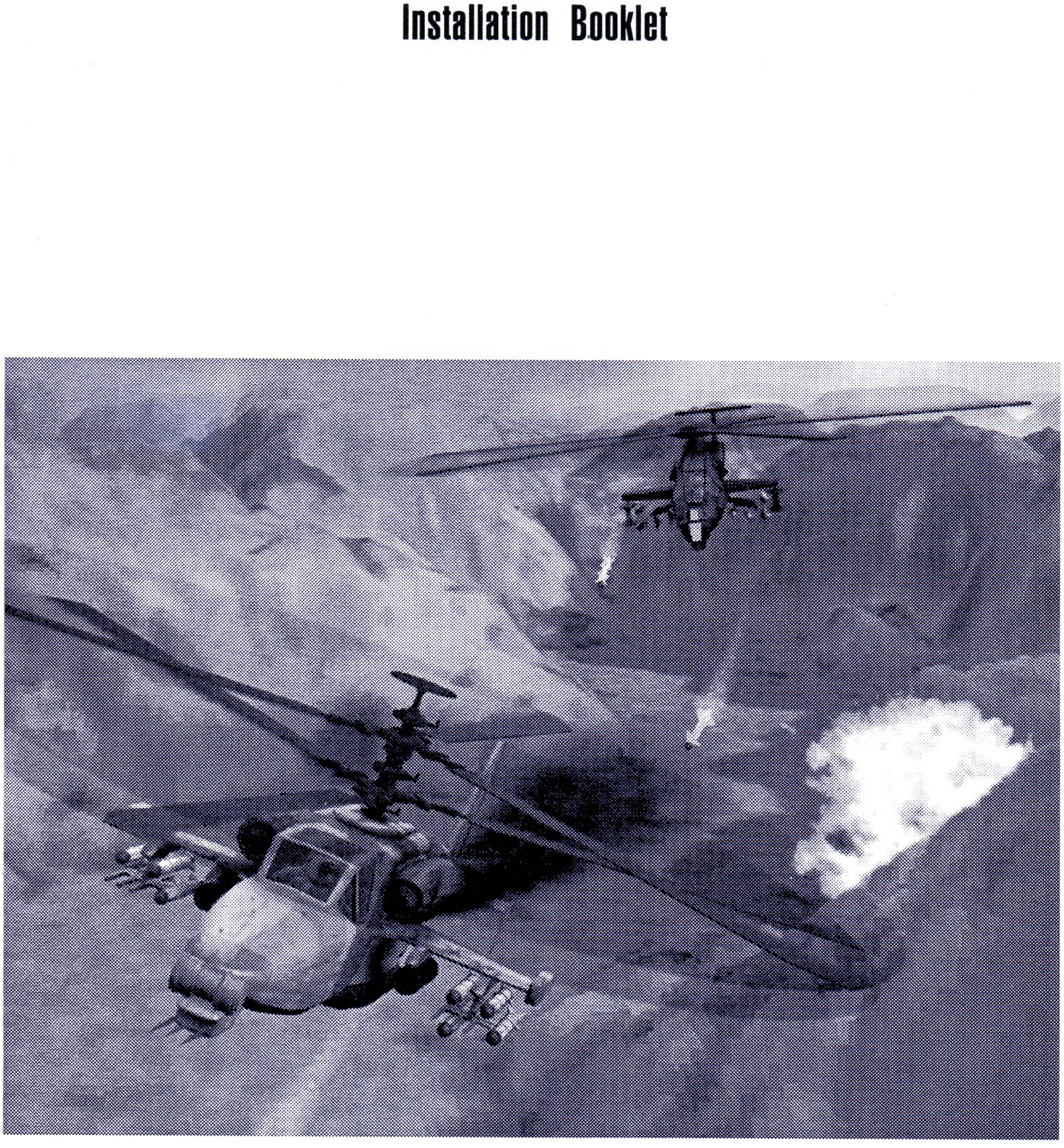
COMANCHE-CD™

MAXIMUM OVERKILL™

Installation Booklet



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QUICK START

INSTALLATION

Insert the CD-ROM disk into your CD-ROM drive. Log onto your CD-ROM drive. Once you are logged onto that drive, type INSTALL and press "Enter."

The installation process will then create a directory named \COMANCHE on your destination drive and immediately begin unpacking the archived program and data files necessary for the game to operate. Once the INSTALL program has finished loading the program and data files into your \COMANCHE directory, it will return you to the DOS prompt in the \COMANCHE directory.

If you have a sound card such as a Sound Blaster or Roland, you should then type SOUNDSET, followed by pressing the "Enter" key. This will allow you to select the sound card settings for your system's configuration. Once you've finished the sound setup and exit this last part of the install program, you will find yourself, once again, at your destination drive's DOS prompt.

To start the game, type in "C" or "COMANCHE" followed by the "Enter" key. This will start the Comanche simulator.

STARTING THE PROGRAM

After the starting sequence is displayed, the game will begin cycling through a series of screens including a self-running demo. Press any key to abort the demo. A window with some empty slots and/or pilot names will then appear. To start, select an empty slot by using the up or down arrow keys and press "Enter" (If there are no empty slots, select any pilot's name you wish to overwrite and press the "Delete" key followed by the "Enter" key). Now enter your own name or "Handle" and press "Enter." Now that you have created or chosen a pilot, the Main Operations screen will appear.

From the Main Operations screen, you can begin a mission, view your pilot's current stats, choose another pilot to play, display an overview of the RAH-66, run a demo of the game, view the credits or exit to DOS.

To go right into the game, select Begin Mission and press "Enter." You will be asked to select a campaign and then to select a mission from that campaign. You may not be allowed to select certain missions until others have been completed successfully. Pressing "Enter" at each prompt will get you quickly into a mission. As you go in, you will be given a brief description of the mission and your goals.

CONTROLS

The collective pitch controls the degree of pitch for the rotor blades. The higher the degree of pitch, the higher your helicopter goes. A decrease in the collective pitch will decrease altitude. From your keyboard, you can control the collective by pressing "E" or "–" to increase altitude and "D" or "+" to

decrease altitude. If you are using a joystick with an independent throttle control, the throttle is used to control the collective. A Thrustmaster Weapons Control System can also be used for collective control.

The cyclic control is used to change the direction of the helicopter. Pushing forward on the cyclic causes the Comanche to move forward while pulling back on the control causes it to move backwards. Pushing the cyclic left or right provides roll and twisting left or right produces yaw while turning. From the keyboard, the cursor keys or numeric keypad can be used to control the cyclic. With a joystick push forward or pull back to control forward motion and push left or right to turn. In order to hover at any point in flight, center the joystick or press "*." Also, the "Insert" and "Delete" keys can be used to turn in place by altering the setting of the fantail rotor.

OPTIONS

Once in the Comanche cockpit, pressing "Escape" will pause the game and bring up a menu. Use the cursor keys to change menus and select options and press the "Enter" key to choose the selected option. Some of the options have keyboard equivalents printed next to them. These options can be accessed directly from the game without using the menu bar.

The menu bar options will enable you to choose input devices, change music and sound effects volumes and customize your Comanche display. You may also abort the current mission or exit the game entirely from the menu bar. Pressing "Escape" will remove the menu bar and return you to the game.

FEATURES

- **Voxel Space™**, (pat. pending) is a totally new graphics 3-D imaging system. A desktop computer using Voxel Space can perform up to 1 million 3-D calculations per second, providing over 500 times more detail than with traditional imaging systems.

  Voxel Space can generate beautiful landscapes with directional light sources, haze, and up to 48,000 3-D surface variations per real time frame.

- **Comanche Maximum Overkill** makes use of the FULL 32-bit power of your CPU by using flat mode assembly programming providing the highest possible performance.

- **Realistic Layered Digital Sound** with Sound Blaster.

- **An Advanced Simulation of the RAH-66 Comanche** including detail level, choice of joysticks, flight systems, and symbology clutter control.

- **Multiple 3-D Views** from inside and outside your **Comanche** combat simulator.

- **Multiple Weapon Systems** can select Hellfire, Stingers, Cannon, remote Artillery or Wingman missile hand-off and Laser Auto-Targeting sights.

- **Multiple Missions** 100 missions grouped into 10 campaigns. Campaigns can be played in any order. Each presents its own level of challenge, objectives and winning strategies.

WHAT YOU WILL NEED

Comanche™Maximum Overkill™ CD ROM is designed to work on an IBM 386, 486 or Pentium™ compatible PC system along with the following requirements:

SYSTEM REQUIREMENTS
- DOS 3.3 or higher
- at least 4Mb of RAM
- CD-ROM Drive
- 1 Mb free on your hard drive
- 256-color VGA graphics board
- A mouse, standard joystick or keyboard

We also highly recommend:

JOYSTICK (optional):
Normal joystick , joystick with throttle,
ThrustMaster™ Flight Control System,
CH FlightStick™, CH FlightStick Pro™, CH Flight Yoke™ .

OTHER CONTROLS (optional):
ThrustMaster™ Weapons Control System (MkI, MkII), Foot Pedals

FOR SPEECH/SOUND EFFECTS (optional):
A Sound Blaster or 100% compatible sound board

FOR MUSIC (optional):
A Sound Blaster, Adlib or Roland

In this box, you will find these **Comanche** game components:

- 1 CD-ROM
- THE **COMANCHE** OPERATIONS MANUAL
- INSTALLATION BOOKLET
- REGISTRATION CARD

If any of these parts are missing from this package, immediately contact our Technical Support Staff at (818) 774-0812 between 9:00 A.M. and 5:00 P.M. Pacific Time.

INSTALLATION

Before you install Comanche CD on your hard drive, make sure that you:

- have at least 1 Megabyte of memory available for use on your hard drive.

- remove all TSRs except your CD-ROM drivers from your computer's memory if your system has only 4Mb of RAM.

INSTALLATION PROCEDURE

Place the Comanche CD-ROM into your CD-ROM drive and boot your machine.

At the C:\ prompt, log onto the CD-ROM drive (e.g. D:) and press "Enter." Now, type INSTALL and press "Enter" again.

The Install Program will select the default DESTINATION drive to C:, however you can change the destination drive setting by pressing the up or down arrow keys. Once your choice is made, press "Enter."

The installation process will then create a directory named \COMANCHE on your destination drive and immediately begin copying the program and other files to your hard drive.

If you have installed the Comanche program previously, another message will appear at this point. It will give you the option of overwriting existing files within the \COMANCHE directory or exiting the INSTALL program and getting back to your DOS prompt.

Once the Install program has finished loading the program into your \COMANCHE directory, it will return you to the DOS prompt within the \COMANCHE directory.

NOTE: Some CD drivers change their letter designation if additional drives are installed after Comanche is installed, (e.g. from D: to E:). If this happens, you will have to reinstall Comanche, or Edit the COMANCHE.CDR file and change the first character in the file to match the letter of your CD-ROM drive.

SOUND BOARD SETUP

After installing, you should now run the program called SOUNDSET. With the capability of running up to two (2) sound cards simultaneously, this program will help you adjust your system's configuration so that it will provide the best possible music and sound effects.

Before starting the game for the first time, make sure that you are in the \COMANCHE directory, type SOUNDSET and press "Enter."

SOUNDSET

Follow these steps to configure your sound and music cards:

STEP 1
The installation procedure automatically activates SOUNDSET. However, if you wish to adjust your sound settings at a future time, you may do so by going into your \COMANCHE directory, typing SOUNDSET and then pressing "Enter."

STEP 2
The first menu that appears is the SELECT DIGITAL AUDIO DEVICE screen. This menu lets you choose which device your digitized sound effects and voice (NOT MUSIC) will be played out of (if any). Here you have two choices:

- SOUND BLASTER COMPATIBLE
- NO DIGITAL SOUND

STEP 3
If you choose NO DIGITAL SOUND, the SOUNDSET program will then take you immediately to the MUSIC DEVICE SETUP screen. (Refer to STEP 6)

If you choose the SOUND BLASTER COMPATIBLE option, a new menu will display a list of the Sound Card Port Numbers for you to select from. Pick the port number that is appropriate for your sound card by using your cursor keys to move to the appropriate choice and press "Enter." The default port is 220.

- 210	- 240	-270
- 220 (default)	- 250	-280
- 230	- 260	

Note: If you are unsure of the appropriate settings for your sound card you should refer to your sound card manual or contact the sound card's manufacturer.

STEP 4
In the next menu you must select the Sound Card Interrupt (IRQ) number.
The default is IRQ 7.

- IRQ 2
- IRQ 3
- IRQ 5
- IRQ 7 (default)
- IRQ 10
- IRQ 11
- IRQ 12
- IRQ 15

STEP 5
This menu selects the Sound Card Direct Memory Access (DMA) number. The default is DMA 1.

- DMA 0
- DMA 1 (default)
- DMA 2
- DMA 3

STEP 6
In the final menu SOUNDSET program requests that you select the Music Device. Your choices are:

- ROLAND MT- 32/LAPC-1
- SOUND BLASTER COMPATIBLE
- ADLIB/ADLIB COMPATIBLE
- PC SPEAKER
- NO MUSIC

Sound set-up is now complete. Upon exiting the SOUNDSET program, you will be returned to your DOS prompt. If you want additional information about Comanche sound configuration, please refer to the "SOUND BOARD SET UP" section in the original Comanche Maximum Overkill manual.

STARTING THE PROGRAM

Type "C" or "COMANCHE" from the \COMANCHE directory on your hard drive. Always have the Comanche CD-ROM disk in your CD-ROM drive when playing Comanche.

MEMORY ORGANIZATION

Comanche is a very stable program. If your hardware configuration matches or exceeds that printed on the box, you should have no problems with it. NovaLogic has chosen not to support any Intel design prior to the 386. By doing so we were able to write a superior program for those users who own a 386, 486 or Pentium™.

The few potential problems that can occur arise from the fact that the computer industry is in a state of rapid transition. Most current programs will run on older machines such as the 286. In order for them to use more than 640K of memory, they rely on complex drivers called EMS emulators.

These drivers such as QEMM386, 386MAX and others are able to manage much more memory than 640K, but only in 64K chunks. They do a magnificent job of swapping pointers and memory so that your program can access more than 640K of memory. Unfortunately, these emulators also slow the speed of your computer.

NovaLogic has chosen to program Comanche in 386 Native Mode. It will not run on anything lower than a 386 and it will not run on a 386 with an EMS emulator installed. Instead, Comanche will perform all of its computations in Native Mode, which provides substantial performance advantages.

TROUBLESHOOTING

Having checked that your computer is at least a 386 PC compatible and has at least 4 Megabytes of available RAM and a VGA video card and that the program has been installed on your hard drive, you should then look at this section.

This section is arranged in the order that we think problems would appear from the time that you have logged in to your \COMANCHE directory, typed in Comanche and pressed "Enter."

ERRORS BEFORE THE TITLE SCREEN APPEARS

- No error message at all, but the computer freezes up or does something strange before displaying the color title screen.

1. Could be caused by an incorrect sound card configuration. Try running SOUNDSET and selecting No Digital Sound and No Music.

2. A few computers need HIMEM.SYS to be installed in the CONFIG.SYS file (see your DOS manual for instructions). Also note that HIMEM.SYS is mutually exclusive of EMS device drivers such as QEMM.

- You get an error message which says: "386 Error: This software requires a 386 OR BETTER CPU". Remember: Comanche requires a 386 or better CPU.

- You get an error message which says: "SYS Error: Unable to enter 32-bit mode, processor is in virtual 8086 mode."

Most likely you are running an EMS driver such as QEMM386 or 386MAX. Please read the EMS driver manual for possible solutions. If you have QEMM or 386MAX installed, you may temporarily disable it by pressing "ALT" during boot up. If you are using a different EMS driver, check its manual for a

similar solution. This approach alone may work in the majority of computers except as noted in Solution 2 above.

For a more permanent solution, see the section below entitled MAKING A CLEAN FLOPPY BOOT DISK.

- You get an error message which says: "GAME ABORTED - Not enough free XMS memory."

If you get this error message, you don't have enough free RAM available for the game to operate. If you have confirmed that you have 4 Mb of RAM installed in your computer, there are several reasons why this problem could still occur. Try these possible fixes:

1. REMOVE all TSRs (except the CD-ROM drivers) from your computer's memory. Reboot and try to start the game again.

2. If you are still faced with an out-of-memory condition, check for a line containing SMARTDRV within your CONFIG.SYS or the AUTOEXEC.BAT files.

If one is present and you know how to reduce its memory usage, you should do so, otherwise you should see the next section entitled MAKING A CLEAN FLOPPY BOOT DISK.

SMARTDRV is a DOS program that can allocate large sections of memory for use as a disk cache. In normal use, this speeds up the performance of some programs, but if set too big (2 Megabytes is not unusual) and you don't have enough memory available, it can keep programs from running.

3. If your system still gets an out-of-memory error at this point and you or a friend are knowledgeable about PC DOS and computers, you could check to see if DOS is set to HIGH or if you are taking up too much RAM with ROM shadowing.

HOWEVER, we believe that the easiest way to get around any memory problems, is to get more memory! The most recently developed programs tend to be very memory intensive. Many programs that run with small amounts of RAM will run much better with more RAM. Adding RAM is in many cases the best option to get around "not enough memory" errors.

MAKING A CLEAN FLOPPY BOOT DISK

Here are some easy steps to follow to make a boot disk that will allow you to run Comanche.

Turn on your computer and let it boot up. At your C: prompt you should type in "CD \COMANCHE," take a blank floppy disk and insert into your A drive. Then type "FORMAT<space>A:/S" and press "Enter."

NOTE: You should only use the DOS FORMAT command. Do not format the disk with a utility or with Windows.

Your computer will now format your disk and copy the appropriate system files to this disk to make it a bootable DOS system disk. After the formatting and the transfer of files have occurred, you will get your DOS prompt back. Now type "BOOTXMS" and press "Return." This will copy standard AUTOEXEC.BAT and CONFIG.SYS to your new boot disk.

You must now edit the CONFIG.SYS file on the floppy disk and add your CD-ROM driver line to the end of the file. You can find your CD-ROM driver line in your CONFIG.SYS file on your hard drive. To look at your current CONFIG.SYS, type "EDIT C:\CONFIG.SYS". A typical line is "DEVICE=C:\SCSI\CDROM.SYS". Look for any DEVICE line with "CD" in the driver name. Write down the entire line, exit to DOS, and type "EDIT A:\CONFIG.SYS". Type the line at the end of the file and save.

You must now edit the AUTOEXEC.BAT file on the floppy disk and add the MSCDEX driver line to the end of the file. You can find the MSCDEX line in your AUTOEXEC.BAT file on your hard drive. To look at your current AUTOEXEC.BAT, type "EDIT C:\AUTOEXEC.BAT". A typical line is "C:\DOS\MSCDEX.EXE /V /D:MSCD001 /M:20". Write down the entire line, exit to DOS, and type "EDIT A:\AUTOEXEC.BAT". Type the line at the end of the file and save.

Now you're ready to use this floppy disk to boot up your machine to play Comanche.

USING THE DOS FLOPPY BOOT DISK

To use this floppy system boot disk to play Comanche, turn your computer off and insert the floppy disk in the A drive. Now, turn your computer back on again and it will boot from your A: drive with the files it has found on the floppy disk you have just created. The boot process will set the computer to the \COMANCHE directory. To play the game, simply type "COMANCHE" and press "Enter". If this is the first time that you have run the program, you might want to run SOUNDSET first so that you can configure your sound hardware.

VIDEO DISPLAY SETUP

Comanche is already configured to run on a VGA compatible hi res/hi color mode. As it is permanently set for this mode, there are no complicated video setups for you to bother with.

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